COOKED MEAT BROTH w/ GLUCOSE, HEMIN, VITAMIN K

INTENDED USE
Remel Cooked Meat Broth w/ Glucose, Hemin, and Vitamin K is a liquid medium recommended for use in qualitative procedures for the cultivation of anaerobic microorganisms.

SUMMARY AND EXPLANATION
Robertson introduced the use of beef heart in water to support the growth of anaerobic bacilli.[1] Henry used beef heart cooked medium to study saccharolytic and proteolytic properties of anaerobes.[2] Cooked Meat Broth is recommended by the Food and Drug Administration for enumeration and identification of *Clostridium* spp. in food products and by the American Society for Microbiology for isolation of anaerobes from clinical specimens.[3,4] This medium is also referred to as chopped meat medium.

PRINCIPLE
This medium contains minimal salts, beef heart, peptone, and glucose which provide reducing substances, amino acids, and other nutrients necessary for the growth of anaerobes. Solid meat particles provide favorable growth conditions for anaerobes due to the reducing action of sulfhydryl groups from muscle protein. Sulfhydryl (-SH) groups are more accessible in denatured protein, therefore, the meat is cooked. Cooked Meat Broth contains vitamin K and hemin which is essential for the growth of certain anaerobes, especially *Prevotella melaninogenica*. Glucose is a carbohydrate source of energy to stimulate growth of microorganisms. Cooked Meat Broth has the capacity to initiate growth of bacteria from minute inocula and maintain viability of cultures over extended periods of time.

REAGENTS (CLASSICAL FORMULA)*

Beef Heart Infusion	454.0 g	Glucose	2.0 g
Proteose Peptone	20.0 g	Hemin	5.0mg
Sodium Chloride	5.0 g	Vitamin K	0.1mg
Yeast Extract	5.0 g	Demineralized Water	1000.0 ml

pH 7.2 ± 0.2 @ 25°C

The following optional ingredient is available per liter of medium:
Glucose ..... 3.0 g

*Adjusted as required to meet performance standards.

PROCEDURE
1. Liquid media for anaerobic cultures should be reduced prior to inoculation by one of the following methods:
   a. Place tubes with caps loosened in an anaerobic environment for 18-24 hours.
   b. Boil tubes with caps loosened; cool to room temperature before inoculation.
2. Consult appropriate references for the recommended procedure for sample inoculation and cultivation.
3. Incubate the tubes anaerobically with loosened caps for up to 7 days at 33-37°C.
4. Examine daily for growth. Turbidity or growth should be confirmed by Gram stain and growth following subculture to appropriate medium.

QUALITY CONTROL
All lot numbers of Cooked Meat Broth w/ Glucose, Hemin, and Vitamin K have been tested using the following quality control organisms and have been found to be acceptable. Testing of control organisms should be performed in accordance with established laboratory quality control procedures. If aberrant quality control results are noted, patient results should not be reported.

CONTROL	INCUBATION	RESULTS
Bacteroides fragilis ATCC® 25285	Anaerobic, up to 48 h @ 33-37°C	Growth
Clostridium perfringens ATCC® 13124	Anaerobic, up to 48 h @ 33-37°C	Growth
Peptostreptococcus anaerobius ATCC® 27337	Anaerobic, up to 48 h @ 33-37°C	Growth
Prevotella melaninogenica ATCC® 25845	Anaerobic, up to 48 h @ 33-37°C	Growth

BIBLIOGRAPHY

1. Robertson, M. 1916. J. Pathol. Bacteriol. 20:327-349.
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3. Food and Drug Administration. 2000. Bacteriological Analytical Manual Online. AOAC International, Gaithersburg, MD.
4. Versalovic, J., K.C. Carroll, G. Funke, J.H. Jorgensen, M.L. Landry, and D.W. Warnock. 2011. Manual of Clinical Microbiology. 10th ed. ASM Press, Washington, D.C.

Refer to the front of Remel *Technical Manual of Microbiological Media* for **General Information** regarding precautions, product storage and deterioration, specimen collection, storage and transportation, materials required, quality control, and limitations.

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